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Jarvik

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(54) **SUPPORT STENT FOR TRANSVALVULAR CONDUIT**

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(2013.01); **A61F 2220/0041** (2013.01); **A61M**
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(58) **Field of Classification Search**

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See application file for complete search history.

(57) **ABSTRACT**

Miniature axial flow pumps are implanted inside the heart or major arteries to provide hemodynamic support. These pumps commonly utilize tubular blood conduit tubes to transport blood across the aortic valve. The valve leaflets themselves are very thin and flexible, and will seal against the conduit if it is centered within the valve orifice. If the conduit is not centered, a leaflet can be pushed to the side of the aorta, preventing the leaflets from sealing and providing a path for backflow. If the blood flow conduit remains pushed against the side of the valve for a long period of time, thrombus may form in the crevice between the conduit and the aorta, causing serious thromboembolic events such as stroke, if the thrombus breaks free. The present invention provides a conduit support device that retains the conduit centered within the annulus of the natural heart valve. A leaflet valve stent may be combined with a conduit support device comprised of a ring supported by posts attached to the valve stent ring. A blood pump may be attached to the center of a transvalvular support stent, for optimal fixation of the pump with relation to a trileaflet or bi-leaflet tissue or polymer valve.

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5 Claims, 3 Drawing Sheets

